M/027/007 & M/023/013

JUMBO MINING COMPANY

DRUMMINE / ALTO-IBEX

OPERATOR RESPONSES & DOGM TECHNICAL REVIEWS

(FEB/89 —)

March 31, 1989

Mr. E. B. King, President Jumbo Mining Company 6305 Fern Spring Cove Austin, Texas 78730

Dear Mr. King:

Re: <u>Technical Review of Notice of Intention to Commence Large Mining</u> Operations, Drum Mountain Project, M/023/013, Juab County, Utah

This letter is a follow-up to the March 27, 1989, meeting held in our offices. Discussions at that time involved permitting concerns pertinent to Jumbo Mining Company's (JUMBO) new Drum Mountain Project and the existing Drum Mine. The Division has re-evaluated several of the issues discussed during the meeting and presents the following proposals for resolution:

1. A minimum \$175,000 reclamation surety must be provided by JUMBO Mining Company in order to continue active mining operations at the Drum Mine. This surety amount includes the reclamation estimate for the Drum Mountain Project properties as well.

This surety amount *does not* include costs for regrading the outslopes of the heap leach pads or the waste rock dumps to a 3:1 configuration.

This reclamation surety estimate is *conditional* upon JUMBO's commitment to commence *contemporaneous reclamation*, beginning with the existing low grade heap leach pads. A reasonable timeframe for commencing the contemporaneous reclamation must be provided to the Division for review and approval.

Upon final reclamation, all heap leach pads must be decommissioned and regraded to a 3:1 outslope configuration. The surface area of the regraded heaps must be appropriately amended and reseeded with the approved revegetation seed mixture.

2. At this time, the waste dumps will not be bonded for regrading to a 3:1 outslope configuration.

Page 2 Mr. E. B. King M/023/013 March 31, 1989

This is *conditional* upon the implementation of a 3:1 outslope revegetation test plot on a waste dump which will no longer be used as part of the operation. The test plot must be implemented by the fall of 1989. The specific design details for the test plot must be reviewed and approved by the Division prior to field implementation.

3. The Division will hold Western States Minerals Corporation (WSMC) accountable for the deficient topsoil stockpile volume (@54,200 cubic yards). WSMC will also be held accountable for the costs required to implement the revegetation test plot(s) on the waste rock dump. These requirements are based upon commitments agreed to by WSMC as part of the original approved mining and reclamation plan for the Drum Mine.

In order to determine the appropriate soil amendments to be utilized for final reclamation of the waste rock dumps and the spent heap leach pads, a representative sampling program and laboratory analysis of this material must be developed. The Division will hold WSMC accountable to have this sampling program performed.

A portion of WSMC's \$264,084 reclamation bond will be withheld to account for the cost of these requirements, unless alternative provisions are made and agreed upon between the involved parties.

If WSMC chooses to petition the Board of Oil, Gas and Mining for relief, and the Board rules in their favor, then the conditions as outlined above will need to be renegotiated. Ultimately, Jumbo Mining Company may become responsible for meeting all of the permitting deficiencies.

We look forward to regrouping on April 4, 1989 to discuss these provisions and any other remaining technical permitting concerns. I will discuss any of the above details with you should you desire to do so. Please contact me before 9:00 AM on April 3rd, otherwise I will be unavailable until Wednesday morning, April 5th. Thank you for your cooperation in completing this permitting process.

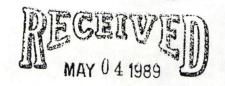
Sincerely,

Lowell P. Braxton Administrator Mineral Resource Development and Reclamation Program

DWH/dwh cc: Minerals team MN3/62-63

JUMBO MINING CO.

6305 Fern Spring Cove Austin, Texas 78730 (512) 346-4537 Telex # 76-7177



DIVISION OF OIL, GAS & MINING

> May 3, 1989 File: OGM539

Mr. D. Wayne Hedberg Permit Supervisor Division of Oil, Gas & Mining State of Utah 3 Triad Center, Suite 350 Salt Lake City, Utah 84180-1203

VIA EXPRESS MAIL

Dear Mr. Hedberg:

In response to your telephone message left yesterday for me, please find enclosed two copies of the digitized map of the Drum Mine Site, colored (in red) to show the areas which will not be disturbed by Jumbo under our present operating plan, including restrictions imposed by the Department of Health. Under the terms of our agreement with Western States, (a copy of which is of record) the reclamation of these red areas become the responsibility of Western States. Those areas marked in blue are the areas which are being disturbed by Jumbo and will be reclaimed by Jumbo, pursuant to the letter and detailed cost estimate break-down sent to you last week.

You also have in your files a larger scale $map_{\mathcal{A}}$ to which the attached legend refers. I have marked those areas on this legend on which Jumbo proposes to assume reclamation responsibility.

Please call me if you need any further information.

Sincerely,

E. B. King

JUMBO MINING CO.

6305 Fern Spring Cove Austin, Texas 78730 (512) 346-4537 Telex # 76-7177

April 27, 1989 File: OGM4279

Mr. Lowell P. Braxton Administrator Mineral Resource Development and Reclamation Program Department of Natural Resources Division of Oil. Gas and Mining 355 West North Temple 3 Triad Center, Suite 350 Salt Lake City, Utah 84180-1203

Dear Mr. Braxton:

M/023/013; Draft Letter 4/4/89 and Telcon 4/26/89 Re:

We have the following comments in response to your Draft Letter, dated April 4, 1989, and will address these in the same order as given in your letter.

1.0: ACID FORMING CONSTITUENTS:

In our conference in your offices on April 4th, my notes indicate that we agreed that Holland Shepherd would take suitable soil * samples (for sodium analysis) to make sure that these samples were truly representative and acceptable to all concerned. Please let us know if there is anything we can do on this item.

3.3: Waste dump slope angles and revegetation of these slopes: (R613-004-109, paragraph 6)

We have requested a variance to allow for the side slopes of waste dumps, as well as uncrushed leach pads, to be left at the natural angle of repose of the rock as dumped. We believe that this variance is fully justified by the local conditions and the confused permit record, and request that this subject be reviewed during the joint visit to the site with the BLM officials, scheduled on May 12th.

Our notes indicate that the Division has tentatively agreed that all waste-rock dump slopes will be left at the natural angle of repose. However, regarding the heap leach dumps, our position is that those pads which were build out of uncrushed rock should remain at the natural angle of repose, while those to be built in the future from rock crushed to minus 1" in size would be regraded to a 3:1 slope.

6.0: OPERATIONAL PRACTICES -- SOILS:

6.2 & 6.3: Soil nutrient and toxicity information is required by the Division. We propose that this information be obtained on the samples to be taken by Holland Shepherd, mentioned above.

Three other matters remained to be addressed as a result of the April 4th meeting:

- a) Fence reclamation cost: We believe that a figure of \$18,787 is excessive, particularly when it is probable that some or all of this fence will need to be retained for a considerable period of time, if not indefinitely, to protect the newly reseeded areas from the thousands of sheep which periodically graze the area. However, we have not had time to secure other bids on the job and thus have no substantiation for revision at this time.
- b) Pipeline removal: We will submit separately a detailed equipment cost list which will show a cost total for the pipeline materials which are to be salvaged of \$118,145. We have obtained one bid for payment to us of \$10,000 for the pipeline materials, where is and as is. This bid includes the removal of the pipeline, cleanup, and recontouring where necessary. The contractor receives title to all pipeline materials removed. We have reason to believe that we will be able to obtain bids which will provide higher payments to us than this one.

In any event we contend that this documentation should be sufficient to remove any question about providing a bond for this item.

c) Decommissioning heap leach pads:

Our plan is to neutralize the protective alkalinity of the leach solutions using carbon dioxide in air, absorbed by the solutions during sprinkling. This causes the removal of the cyanide by oxidation and volatilization during the continued operation of the sprinkling systems. When the free cyanide in the solutions draining from the bottoms of these heap leach pads remains below I ppm for 10 consecutive days, the sprinkling will be stopped, and other reclamation activities will be commenced (sprinkler removal, reseeding, etc.).

Our experience indicates that this cyanide removal phase will require 30 to 60 days of continued operation of the circulating system, no chemical additions will be required, and that some gold will be recovered in the process. Ignoring this gold value, we estimate our costs for decommissioning as follows:

Labor: One man, living on property, to run	
pumps and check pH and cyanide on daily basis for two months	\$5,000
Fuel & Maintenance for existing 125 kva general from experience est. @ \$4,000/month	
Escalation & contingencies, 10%	\$1,300
Total	\$14.300

This estimate covers the decommissioning of the five heaps which were permitted as of the date of take-over of the property by Jumbo Mining Company. If the other, "blacklisted" heaps are repermitted in the future and are leached again, additional monies should be provided for their decommissioning. If these heaps are not leached again, it is contemplated that no additional monies will be required, as these heaps

have now been inactive for nearly a year. During this time, rain, snow, and atmospheric neutralization forces have likely done most of the job of cyanide removal. Thus we anticipate a few days only of sprinkling Will be required to confirm that the cyanide levels have in fact declined to acceptable levels.

We believe that the above covers all matters which were left open with the exception of those items which are dependent on the top-soil question and the division of responsibility for reclamation as between Western States and Jumbo Mining Company.

We have provided you with a copy of the page of our agreement with Western States which relates to the reclamation issue, and we have verbally provided you with our interpretation of this agreement in our meeting in your offices on April 21st. In addition I indicated to you that we had written Western on April 17, 1989 and requested them to proceed "with all due haste to correct the deficiencies existing at the time of our take-over of the properties so that we may move forward to finalize matter with the relevant authorities." Please find enclosed a copy of this letter, to which we have had no reply as of this date.

In our telephone conversation yesterday I promised to provide you with a map, delineating those areas on which Western has full reclamation responsibility, and those areas on which we accept reclamation responsibility (except for the topsoil which was not stockpiled on the date of our take-over). Please refer to page 6 of this letter, which is a copy of the legend of the map sent to you on February 27, 1989. On this legend I have marked those areas which will be disturbed by Jumbo subsequent to the take-over of the property, and those which remain the responsibility of WSMC.

In addition, I am including a revised Reclamation Cost Estimate schedule (page 5 hereof) which reflects the impact of all matters discussed In summary, as shown on this schedule, we are prepared to post promptly a reclamation bond for the amount shown thereon (\$110.599). plus the additional amount of \$19,000 agree upon with the Division per the 11/25/88 memo to cover the Alto/Ibex, for a total of \$130,000 in round numbers. We suggest that you retain such additional amount of Western's bond as you feel necessary to cover their remaining liabilities.

And finally, we hope that our posting of this bond, additional to that which you hold of Western (\$264,000) will more than adequately secure the States requirements for reclamation. Thus we would urge you again to let us start our operations on the Alto/Ibex project which has been pending since last July. If, in the alternate, you feel that the Division needs additional time to negotiate matters with Western before finally concluding matters on the Drum Mine, then we would urge that you accept our separate additional bond for the Alto (on which we have had agreement for some time) and let us start roadwork, stripping, etc. while matters are resolved with Western.

In conclusion, it is our contention that by either route the State will be fully bonded for reclamation requirements for all parts of the Drum Mountain Project, and thus there should be no excuse to impose on our company, nor on the surrounding community the ecomonic hardship which will be caused by further denial of permission to proceed with this development. We presently are employing 20-30 people on this project and their livihood is dependent on a day-to-day basis on your decisions.

Sincemely,

E. B. King

cc: F. Rex Rowley, BLM, House Range Resource Area Don Osler, State Health Jerry Mansfield, State Lands

File: OGMRECL1 April 27, 1989

JMC = Updated Figures per meeting 4/4/89 Jumbo responsibility. WSMC = Areas not disturbed by Jumbo after takeover. WSMC responsibility

DESCRIPTION		: QUANTITY											
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	DIVISION OF AREAS -	7
	JUMBO WESTERN	
	LEGEND .	
	DRUM MINE DISTURBED AREASJANUARY, 1989 (Based on Aerial Photography of July, 1987) (After Partial Reclamation by WSMC)	
	HEAP LEACH PAOSColor Green:	
	HG-1 5.53 acres $\begin{array}{cccccccccccccccccccccccccccccccccccc$	
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	Total 45.72 acres	
#\$.	ROADS-Color Brown: 23.21 * Jumbo	· · · · · · · · · · · · · · · · · · ·
	WASTE DUMPSColor Purples	
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	1.5 - W-4 +5 - 22.88	
	TOTAL 23.88 **	
	RAMPSColor Yellow: 25.38	
	No.1 Pit 7.45 acres ALL JUMBO	See Level
: :	TOTAL	
; ,	GRAND TOTAL	
!	In Survey Ch	1-4)
	106.16 Smeet nices	Spage 6 of \$9.
i	SURTEUM NOTERVAL 5' PHOTOGRAPHY (ATT JULY 22, 1987	

E.B. KING

6305 Fern Spring Cove Austin, Texas 78730

> April 17, 1989 File: W54169

Mr. Allan R. Cerny Land Manager Western States Minerals Corporation 4975 Van Gordon Street Wheat Ridge, CO 80033

Dear Al:

In response to your letter dated March 13, 1989 in which you inquire as to our "taking over the permits and the reclamation responsibility...", on the Drum Mine properties which we have purchased from WSMC, please be advised as follows:

- 1) I have informed you by telephone that we have had various meetings with the State officials regarding the consolidation of the permits and bonds to encompass our contemplated mining activities on nearby properties which were not acquired from Western States. By their rules this consolidation is necessary before issuing updated and modified permits and in setting the revised reclamation bond amounts.
- 2) During these meetings it has become apparent that several major permit and reclamation problems existed prior to our takeover of the property, and that these problems are clearly the responsibility of Western States.

For your ready reference, I am attaching a copy of the first page of the QUITCLAIM DEED AND ASSIGNMENT which clearly delineates the responsibilities of WSMC and Asoma (Utah), Inc. in this matter. This document has been recorded in both Juab and Millard Counties, and, as a matter of public record, is available to the State authorities, among others.

You will note under paragraph 3. that the Assignee (Asoma (Utah), Inc.) indemnifies the Assignor (WSMC) for, and is responsible for acts (presumeably including reclamation events caused by its operations and activities) only AFTER the date of this Quitclaim Deed and Assignment... ASSIGNOR SHALL BE RESPONSIBLE FOR ALL RECLAMATION ON THE LODE MINING CLAIMS AND THE PROPERTIES. (Caps added for emphasis.)

- 3) Please be advised that we have essentially completed our reclamation negotiations with the State on our separate, adjacent properties. Additionally we have pretty much concluded our discussions on the reclamation of those areas on the properties purchased from WSMC which we plan to disturb SUBSEQUENT TO OUR TAKEOVER of these properties. Two serious matters remain open, however:
- a) 54,000 cubic yards of topsoil, which WSMC allegedly agreed to set aside for reclamation purposes, is nowhere to be found, now nor was it at the time of our takeover.

57019

b) A question as to recontouring of slopes of various heaps and dumps to a 1:3 grade. To date we have made no progress in getting the Department of Health to rescind the prohibition against further use of heaps No.'s 1, 2 & 3 LG, plus No.6 & 7 HG. This prohibition occurred before our take-over on October 12, 1989, and would (unless we can get them to allow us to continue leaching of these heaps) place the responsibility for the reclamation of these five heaps squarely in Western's lap. As much as we would like to, we are prohibited from undertaking further operations on these heaps.

In a similar manner there are a number of waste dumps which we do not plan to use in the future, and these become Western's responsibility.

Please be advised that in our mutual interest, we plan to submit a formal request for a variance from the requirement to recontour the side slopes of various heaps and dumps. In our opinion this requirement is not justified by the local circumstances, including past and future land use, and many other factors. In the event that our request for a variance is approved, it is likely that the same variance may apply to heaps which are the responsibility of WSMC.

In conclusion we call upon you to act with all due haste to correct the deficiencies existing at the time of our take-over of the properties so that we may move forward and finalize matters with the relevant authorities.

Sincerely,

Asoma (Utah), Inc.

E. B. Kind President

8 0/9

ice 10.015 001 0150

ENTRY NO. 188891.

RECORDED AT 11:23-8.8 AT 2:22 M. BOOK 334. PAGE 878.

REQUEST OF Larger (Utal) Inc.

FEE PAID CRAIG J. SPERRY, Juab County Recorder S. 17:33. By Jean. B. Jalusen. Deputy

QUITCLAIM DEED AND ASSIGNMENT

THIS QUITCLAIM DEED AND ASSIGNMENT, effective the 12th day of October, 1988, is from WESTERN STATES MINERALS CORPORATION, a Utah corporation ("Assignor"), whose address is 4975 Van Gordon Street, Wheat Ridge, Colorado 80033, to ASOMA (UTAH) INC., a Delaware corporation ("Assignee"), whose address is 6305 Fern Spring Cove, Austin, Texas 78730.

In consideration of Ten Dollars (\$10.00) and other valuable consideration, and further in consideration of the mutual covenants, agreements, and promises herein contained, the parties hereto agree as follows:

- 1. Quitclaim. Assignor quitclaims to Assignee the unpatented lode mining claims more particularly described in Exhibit A attached hereto and incorporated by reference herein.
- 2. Assignment. Assignor assigns to Assignee all the right, title, and interest of Assignor in and to those certain leases, agreements, and permits described in Exhibits B through E attached hereto and in an to BLM right of way No. U-51906.
- 3. Indemnity. Assignee agrees to comply with and to be bound by the terms and conditions of said leases, agreements, and permits and shall indemnify and hold harmless Assignor from any claims, damages, costs, or expenses (including attorneys fees) resulting from any default under said leases, agreements, and permits after the date of this Quitclaim Deed and Assignment or from any operations or activities of Assignee after the date of this Quitclaim Deed and Assignment on or in connection with the lode mining claims or the properties covered by the leases, agreements, and permits. Assignor shall be responsible for all reclamation on the lode mining claims and the properties.
- 4. Royalty. (a) Assignor reserves, and Assignee shall pay to Assignor, a production royalty of five percent (5%) of the Net Smelter Returns from all minerals, including by products and co-products thereof, produced and sold from the lode mining claims described in Exhibit A, and one percent (1%) of the Net Smelter Returns from all minerals, including by-products and co-products thereof, produced and sold from the properties covered by the leases, agreements, and permits described in Exhibits B through E.
- (b) "Net Smelter Returns" means the actual proceeds of sale received by Assignee from the sale of ore, ore concentrates, bullion or other products mined, produced, and sold from the lode mining claims and the properties from a smelter, refinery

2929

RECEIVED MAY 0 4 1989

March 30, 1989

DIVISION OF OIL, GAS & MINING

To: Elquist Mining Co.

From: Jumbo Mining, Bob Moore Reb Woo

RE: Salvage proposal

Dear Mr. Elquist,

Jumbo Mining has the following equipment available for salvage. If you are interested in this material, please send us a proposal.

	Original V	alue
16,000	3" Nipac polypipe \$1.32'	\$21,120.00
16,600'	6" Metal pipe \$4.00' -	66,400.00
7,500'	4" Metal pipe \$2.00' -	15,000.00
8,000'	6" Metal pipe Damaged	
523	6" Couplings\$22.81 -	11,930.00
250	4" Couplings\$12.58 -	3,145.00
25	2" Valves\$25.00 -	550.00
		\$118,145.00

Elquist Mining Company, Inc.
Post Office Box 488
Battle Mountain, Nevada 89820
(702) 635-2391
635-2778

April 3, 1989

Jumbo Mining
Drum Mine
Delta, UT 84624

Elquist Mining Company would like to submit a lump sum bid, to salvage all pipe & couplings and clean area along pipeline, in the amount of \$10,000.00.

Respectfully submitted,

John Elquist

Partner

The Elgenst

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	DRUM	
	DIVISION OF AREAS -	
	JUMBO (WESTERN _	
	LEGEND DRUM MINE DISTURBED AREAS—JANUARY, 1989	
	(Based on Aerial Photography of July, 1987) (After Partial Reclamation by WSMC)	
8	HEAP LEACH PADSColor Green:	
	HG-1 5.53 acres > HG-2 8.74	
	HG-4 & 5 8.42 + 3.09	-4 2
	HG-6 1.65 HG-7 5.65 LG-1 2.05 WSMC - 16.34	72.7
	LG-2 3.13 - \ LG-3 3.86 - \	11.85
	Ponds 3.09 - Jumbo - 3.09 - Total 45.72 acres	
fi	ROADSColor Brown: 23.21 " Jumiso	
	WASTE DUMPSColor Purple:	
	1.0 - W-1 10.92 acres 2538 - WESTERN W-2 6.37 " 2.50 - JUMBS	
	W-3 3.62 W-5 2.97 22.88	3.3
•	TOTAL 23.88	
	RAMPSColor Yellow: 25.38	
· · :	No.1 Pit 7.45 acres ALL JUMBO	*
	TOTAL	
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	SCALE ("+100" 200" 100"	
	SUNTOUP INTERVAL 5' PHOTOGRAPHY LATE JULY 22, 1987	



State of Utah DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

355 West North Temple 3 Triad Center, Suite 350 Salt Lake City, Utah 84180-1203 801-538-5340

May 25, 1989

Mr. E. B. King, President Jumbo Mining Company 6305 Fern Spring Cove Austin, Texas 78730

Dear Mr. King:

Re: <u>Technical Review of Notice of Intention to Commence Large Mining Operations</u>, <u>Drum Mountain Project and Drum Mine</u>, <u>M/027/007</u>, <u>Millard and Juab Counties</u>, Utah

Thank you for your April 27, and May 3, 1989 responses to the Division of Oil, Gas, and Mining's (DOGM) April 4, 1989 review of Jumbo Mining Company's (JUMBO) proposed Drum Mountain Project in Juab County, Utah.

The following comments are directed toward finalization of permitting actions for the Drum Mountain Project (Alto/Ibex).

R613-004-106(2) Operation Practices, Deleterious Materials

Reference Operator's 1.0

The Division has committed to providing the soil analysis for high sodium and SAR at the site and will follow through with this commitment.

R613-004-106(5) Operational Plan, Soils

Reference Operator's 6.0

A soil nutrient analysis will be performed by the Division, along with the previously mentioned evaluation for salts and SAR values.

R613-004-111(6) Revegetation and Topsoiling of Slopes

Reference Operator's 3.3

The Division will grant a variance from the requirements to topsoil and revegetate the waste-rock dumps proposed for the Alto-Ibex project. This variance will apply only to those areas where cast out material will settle on steeper than angle of repose, natural slopes. This variance will also apply to the pit highwalls proposed to be developed at these sites.

Page 2 Mr. E. B. King M/027/007 May 25, 1989

The Division will not require the operator to salvage topsoil where none exists. Waste areas that are not topsoiled must still be reseeded. If the laboratory analysis of the waste material indicates it is deleterious, then it must be covered with a minimum 3 foot depth of borrowed material.

R613-004-113 Surety

- 1. JUMBO must provide a reclamation surety to the Division for reclamation of all pertinent existing and proposed surface disturbances. A surety estimate of \$162,000 (copy attached) has been calculated based upon information presented to date by JUMBO. This estimate includes the Drum Mountain Project properties and those disturbed areas (Drum Mine), which JUMBO has indicated they will continue to use. This figure may need to be revised pending final resolution of the permit transfer process between WSMC and JUMBO. Additional future surface disturbances proposed by Jumbo may also require adjustment to the surety amount.
- JUMBO must submit a completed Reclamation Contract (FORM MR-RC) along with the required surety. A copy of FORM MR-RC is attached for the operator's use. The form and amount of the surety must be approved by the Board of Oil, Gas and Mining.

R613-004-120 Transfer of Notice of Intention

On October 12, 1988, the sales agreement, between JUMBO and Western States Minerals Corporation (WSMC), for the Drum Mine was finalized. A *complete* permit transfer application (FORM MR-TRL), has not been filed with this office. The permit transfer document must be completed by *both* parties (Jumbo Mining Company & Western States Minerals Corporation). The Division cannot formally recognize JUMBO as the new operator of the Drum Mine, or release any of WSMC's reclamation surety, until this action is completed.

The Permit Transfer document must specifically identify, **by attached map(s) and legal description**, the permitted properties which are being transferred to JUMBO and those portions (if any) which will be retained by WSMC. The minimum map scale must be 1" = 200'. It is JUMBO's responsibility to have the formal transfer documentation completed by both consenting parties and then returned to the Division. A new FORM MR-TRL is attached for the operators use.

We have tentatively scheduled this matter to be presented before the Board of Oil, Gas and Mining during the July 27, 1989 board hearing. *The following information must be received no later than July 12, 1989 to be included on the July agenda.* (June 8, 1989 is the deadline for scheduling agenda items for the June 22, 1989 board hearing.)

1. The completed permit transfer document, FORM MR-TRL, with all required attachments and both company signatures.

- 2. The **form** (type) of reclamation surety which JUMBO will submit to the Division. The actual surety must be received prior to the date of the hearing.
- 3. A signed and notarized Reclamation Contract, FORM MR-RC.

The Division cannot approve commencement of mining operations on the Drum Mountain Project properties until the above concerns have been resolved.

The following comments are applicable to finalization of JUMBO's permitting requirements for continued use and final reclamation of the Drum Mine property.

R613-004-106(2) Operation Practices, Deleterious Materials

Reference Operator's 1.0

The analysis of the waste material, at this site, will become the responsibility of WSMC. This will be required of WSMC as part of the topsoil deficiency package the Division has asked them to address.

R613-004-106(5) Operational Plan, Soils

Reference Operator's 6.0

The Division will require WSMC to address this portion of the plan. This will be included as part of the topsoil deficiency package previously mentioned. Please refer to the Division's March 31, 1989 letter item #3, all 3 paragraphs (copy attached).

R613-004-107(4) Operation Practices, Deleterious Materials

The previous operator failed to construct a wildlife fence around the perimeter of the process ponds, as requested in a May 9, 1984 letter from the Division (copy attached). The fence must be constructed at this time and meet specifications to prevent small and large animals from entering the pond facility.

An effective big/small animal-proof fence should be at least 6 feet high and divided into small and large mesh portions. The small mesh portion, should prevent small animals from accessing the pond, and should be at least three feet high, and must be buried 1 foot deep. The remaining portion of the fence can be large mesh or chain link, topped with a strand of barbed wire.

Page 4 Mr. E. B. King M/027/007 May 25, 1989

We also suggest, that where solution ditches are open to animal access, that these be covered or somehow fenced to prevent such access. We strongly suggest that hazing devices of some type be employed to prevent migratory bird species from accessing the pond, as well.

R613-004-109 Revegetation and Topsoiling of Slopes

The Division requires that all heap leach dump slopes be regraded to an approximate 3:1 slope. The final decision regarding the waste dump slopes will not be addressed at this time. JUMBO and WSMC must first decide whose responsibility it is to reclaim these dumps. Until then, the Division will hold WSMC responsible for their reclamation. Please refer to the March 31, 1989 letter from the Division items #1, paragraph 4.

The BLM has informed the Division that they concur with the State's position regarding final reclamation requirements for the heaps and waste dumps at the Drum Mine.

The Division establishes July 12, 1989, as the deadline for final resolution of the remaining permitting concerns outlined in this letter. If this deadline is not met, then the Division will require cessation of JUMBO's mining activity at the Drum Mine.

Thank you for your cooperation in completing this permitting action. Please contact me or D. Wayne Hedberg should you have questions pertaining to the requirements of this letter.

Sincerely,

Lowell P. Braxton

Associate Director, Mining

Swell PBrugh

DWH/jb Attachments

cc: Allan Cerny, WSMC
Jerry Mansfield, State Lands
Don Ostler, BWPC

F. Rex Rowley, BLM, House Range Resource Area

Minerals team

MN3/78-81

Note: Motor Control of the Control o

April 4, 1989

Mr. E. B. King, President Jumbo Mining Company 6305 Fern Spring Cove Austin, Texas 78730

Dear Mr. King:

Re: <u>Technical Review of Notice of Intention to Commence Large Mining Operations</u>, <u>Drum Mountain Project</u>, <u>M/023/013</u>, <u>Juab County</u>, <u>Utah</u>

Thank you for your February 3, 1989 response to the Division of Oil, Gas, and Mining's (DOGM) December 6, 1988 initial review of the proposed Drum Mountain Project in Juab County, Utah. An onsite inspection was performed on March 10, 1989 to confirm some of the statements made in your February 3rd submittal. Unfortunately, the application remains incomplete and we cannot proceed toward tentative approval until the following technical concerns have been resolved.

 On October 12, 1988, JUMBO effectively became the new owner for of the Drum Mine. The sales agreement with WSMC was finalized as of this date. To date, JUMBO has not filed a <u>complete</u> permit transfer application with DOGM. Consequently, WSMC is still the effective permit holder of the Drum Mine.

The Permit Transfer and the replacement reclamation surety must be resolved before DOGM will grant approval of any development of the Drum Mountain Project (Alto-Ibex properties).

TECHNICAL CONCERNS:

R613-004-106(2) - Operation Practices, Deleterious Materials

Reference Operator's 1.0

The Division will accept the operator's argument for the absence of acid-forming material associated with the waste rock material. However, in reading the Drum Mine, 1983, Mining and Reclamation Plan, it is apparent that alkaline materials may exist in the parent rock. Soil analyses performed at the Drum site indicate high sodium and SAR values at levels 2 to 3 feet below the surface.

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The Division requests that the operator evaluate waste material at the Alto-Ibex and Drum sites for sodium and SAR (sodium adsorption ratio). These tests must come from representative samples of the waste material. The operator's sampling methodology must be reviewed by the Division prior to obtaining the waste material samples.

R613-004-112 - Variance

Reference Operator's 3.1 - Topsoiling

A variance will be granted for topsoil salvaging at the Alto-Ibex pits and waste dumps. Field verification, by Division staff, confirmed that salvagable topsoil does not exist in the areas to be disturbed. The operator's argument for natural seeding to do the job of revegetation at this site, is not acceptable. The plant species, indicated in the photos are of undesirable plants (halogeton, koshia, and cheatgrass, i.e., weeds). These species are not palatable to wildlife or livestock, do not make good soil binders, do not provide good wildlife habitat, and do not provide a diverse, persistent vegetative community. The range condition of these areas would be rated as very poor.

Reference Operator's 3.2

The Division accepts the operator's proposal for pit reclamation at the Alto-Ibex sites. Variances will be granted for pit highwalls and revegetation associated with the pits. The only requirement will be that pit roads be ripped, fertilized, seeded, and imprinted.

If an alternate mining method is used at these sites (e.g., mountain top removal), then these reclamation variances will need to be reevaluated by the Division.

Reference Operator's 3.3

The operator's argument, that angle of repose dump slopes will remain stable over time, may be true. However, experience and research has shown that such slopes will not provide conditions conducive to acceptable revegetation. A variance to allow angle of repose slopes for the leach pads or waste rock dump slopes was not granted in the original Drum Mine permit. The BLM approval for the Drum Mine also required regrading of the waste rock dump outslopes to a 3:1 configuration. The leaching pad areas were approved to be regraded to conform to approximate original contour.

Because topographic constraints at the Drum Mine site are not a restricting factor, the dumps and heap leach pads can be graded to blend into the surrounding contours, or 3:1 slopes (as originally permitted).

Page 3 Mr. E. B. King M/023/013 April 4, 1989

No angle of repose slope variance will be granted for the heap leach pads at the Drum site. A test plot(s) will need to be established on a representative waste rock dump slope which has been regraded to a 3:1 configuration. The Division will defer its decision to grant a variance to angle of repose slopes on the waste rock dumps until the results of revegetation test plot studies are available.

However, the Division will grant a variance for angle of repose slopes at the Alto-Ibex sites, where dumps must be placed on natural slopes that are steeper than 2:1.

R613-004-107(5) - Operational Practices, Soils

Reference Operator's 6.1

The Division will not require the operator to salvage topsoil where none exists. Waste areas must still be revegetated. If the waste material proves to be deleterious then it must be covered with borrowed material.

Reference Operator's 6.2

The Division will accept the soil survey information, provided in the 1983 Drum Mine Plan, in lieu of another survey to be performed for the Jumbo site. The survey information provided in this plan, indicates that soils in the area range from 6 to 60 inches in depth, depending on topography. If the operator wants to defer to this information, this would indicate the existence of şalvageable topsoil in the alluvial valleys associated with the Alto-Ibex site and Drum sites. The possibility of obtaining borrow material therefore exists.

Reference Operator's 6.3

The operator has asked that the Division refer to soils information from the Drum Mine Plan when referring to soils questions. The Drum mine plan does not provide information concerning nutrient or toxicity levels of the waste material. If this material is to be used as a plant growing medium, without benefit of topsoil, the operator will be required to provide proof that the waste material is capable of sustaining quality, perennial vegetation.

The operator must obtain representative samples of the waste material to be revegetated. These samples must be analyzed for the following parameters: nitrate nitrogen, available phosphorous, exchangeable potassium, soil pH, electrical conductivity, texture, sodium adsorption ratio, selenium, and boron. The laboratory results must then be provided to the Division for evaluation.

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Reference Operator's 6.31

The photographic evidence, provided by the operator, does not provide conclusive evidence that the material provides a healthy growth medium for plants other than undesirable annuals (weeds). The operator will be required to reclaim the area with adaptable, perennial species, which will support the postmining landuse (i.e., livestock and wildlife grazing/habitat).

Reference Operator's 6.32

The Division concurs with the operator's rational that borrowing topsoil from other areas will cause greater disturbance than disturbing only one area. However, if the waste material proves to be deleterious, the Division will require that good material be borrowed from another suitable area to cover the wastes.

Reference Operator's 6.4

The operator will be required to reclaim any prelaw disturbed areas that are redisturbed as part of the ongoing and proposed mining operations. However, the operator will not be expected to retopsoil these areas. It would benefit the operator to designate, on a map, those areas to be redisturbed. A revegetation variance can be requested for these areas, otherwise the operator will be expected to meet the 70% revegetation standard prior to bond release.

R613-004-111(13) - Revegetation

Please change Chrysothamnus nauseosus (rabbitbrush) in the recommended seed mix to Chrysothamnus viscidiflourus. According to the Drum Plan, this species of rabbitbrush is better adapted to the conditions of this site.

Reference Operator's 11.1

The Division will not approve the operator's request to allow natural invasion or natural revegetation for any minesite area. An exception would be for the pit highwalls and benches at the Alto-Ibex, Monarch and Keystone test pits, and the Drum minesites.

The operator must still reseed those areas where a revegetation variance has been approved, but will not be required to meet the 70% revegetation standard, prior to reclamation surety release. This would include areas such as dump slopes which exceed 3:1, and terraces or benches which could support some vegetation.

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Reference Operator's 11.2

The Division will require, depending on the results of waste material analyses, that the operator rip, mulch, fertilize, and reseed the tops of the waste dumps. This is particularly true for areas where no topsoil is to be applied.

Reference Operator's 11.3

It is questionable whether the operator's voluntary revegetation test plots will produce the type of results necessary to determine an acceptable revegetation methodology for this site or the Drum site. It is our suspicion, that the waste material alone will support a healthy, weed-infested vegetative community. However, desirable species will find it difficult, if not impossible, to gain a foothold in such an environment.

The recent test plots, will make good controls to compare with other plots. The operator should develop several different revegetation test plots, using different soil amending procedures. The type of soil amendments to be applied will be determined after evaluating the analytical results of representative waste material samples. By proceeding in this manner, the most reasonable approach to reestablishing a good vegetative community on the site can be accomplished.

R613-004-111 (12) & (13) - Topsoil and Revegetation

Reference Operator's 12.1

The argument for natural reseeding of areas at the Alto-Ibex site or the Drum site is not acceptable. The operator will be expected, at a minimum, to rip and reseed areas at the site accessible to reclamation equipment. This might include benches and roads in the pits themselves. A field visit will be made to the site this spring to verify any such Division requirements.

R613-004-111(12)

Reference Operator's 14.3

On page 6, item #3 of our December 6th letter, we indicated that the approved plan for the Drum Mine included a commitment to salvage and stockpile approximately 30,000 cubic yards of topsoil for reclamation. This volume was based upon our initial review of Western States Minerals Corporation's (WSMC) 1985 and 1986 annual reports. After reviewing the final approval documents for the Drum Mine, this figure could not be verified.

Page 6 Mr. E. B. King M/023/013 April 4, 1989

Western States Mineral's, approved 1983 Mining and Reclamation Plan for the Drum Mine, indicates that areas to be reclaimed will be covered by 6 inches of topsoil. The approved plan indicates that @29 acre-feet (46,786 cubic yards) of topsoil would be salvaged and stockpiled for ultimate reclamation.

On February 21, 1984, DOGM received an amendment from WSMC to construct a 13.25 acre Waste Rock Leach Dump at the Drum Mine. Approximately 10,700 cubic yards of topsoil was to be salvaged and stockpiled (average 6-in. depth/acre). On June 4, 1984, DOGM received a request to amend the February amendment and reduce the disturbed area to 5.5 acres. Assuming a 6-inch stripping depth, a total of 4,440 cubic yards would be salvaged under the revised amendment. On March 28, 1985, DOGM approved this 5.5-acre amendment (Low Grade Ore Heap).

A 56-acre expansion (Low Grade Ore Heap) to the Drum Mine permit was approved by DOGM on March 28, 1985. The revised surety estimate for this amendment included costs to respread another 5,000 cubic yards of topsoil over 26 acres (see WSMC letter dated 8/5/85). These adjustments, when added to the originally approved mine plan, yield a grand total of 56,226 cubic yards of topsoil that should have been stockpiled.

WSMC's 1985 and 1986 annual reports indicate that only 10,000 cubic yards were salvaged. This topsoil volume could not be verified during our March 10th onsite inspection. We estimated that less than 2000 cubic yards of topsoil is currently stockpiled onsite.

It is obvious that this volume of topsoil will not be sufficient to reclaim the disturbed areas. If the operator is going to be able to meet our final bond release requirements on this acreage, then it will likely be necessary to amend the waste material or borrow the needed topsoil material elsewhere.

Because the formal permit transfer process has not been finalized with this office, DOGM cannot formally recognize JUMBO as the new permittee/operator of the Drum Mine. Therefore, the topsoil deficiency must be addressed before WSMC's reclamation surety will be released. DOGM may require that sufficient topsoil (or suitable substitute plant growth material) be acquired and stockpiled at the Drum Mine to resolve the topsoil deficiency.

One possible alternative to actual topsoil acquisition, would be to estimate the costs required to obtain the deficient topsoil volume and deduct that amount from WSMC's reclamation surety.

Page 7 Mr. E. B. King M/023/013 April 4, 1989

Thank you for your patience and cooperation in completing this permitting action. Please provide your written response to this letter by May 1, 1989. Please contact me or D. Wayne Hedberg of my staff should you have questions pertaining to this review.

Sincerely,

Lowell P. Braxton Administrator Mineral Resource Development and Reclamation Program

DWH/jb

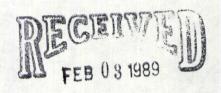
cc: F. Rex Rowley, BLM, House Range Resource Area Don Ostler, BWPC Jerry Mansfield, State Lands Minerals team MN3/54-60

JUMBO MINING CO.

6305 Fern Spring Cove Austin, Texas 78730 (512) 346-4537 Telex # 76-7177

January 19, 1989 File: OGM119

Mr. Lowell P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203



DIVISION OF OIL, GAS & MINING

Dear Mr. Braxton:

Re: Your letter dated December 6, 1988: Initial Review of M/023/013

We have the following comments in response to your "TECHNICAL CONCERNS", and will address these in the same order as given in your letter.

1.0: ACID FORMING CONSTITUENTS:

Our answer "N/A" was intended to signify that no deleterious or acid forming materials were known to be present or would be produced as a result of our mining operations. Specifically, in the areas to be mined, no sulfide minerals or other acid forming constituents have been observed in exploration drill cuttings, old mining shafts and tunnels, or surface sampling, either in the ore or waste material. Further, visual examination of old mining dumps, dating back before 1900, as well as those produced in the last five years by Western States, have indicated no evidence of leaching of any deleterious materials, nor is there any evidence that the vegetation surrounding these waste dumps has in any way been affected.

2.0: OPERATION PLAN SEQUENCE:

The sequence of mining will be determined by availability of manpower and equipment and may vary from the following planned sequence:

- 2.1: Underground mining at the bottom of "old pit" at Drum mine.
- 2.2: Continued open pit mining at "old and new pits" of Drum mine.
- 2.3: Construction of road to Alto/Keystone/Ibex mine areas.
- 2.4: Open pit mining of Alto deposit.
- 2.5: Test pit mining of Keystone deposit.
- 2.6: Start underground mining of Ibex mine.
- 2.7: Improvement of road to Monarch mine.
- 2.8: Test pit mining of Monarch mine.
- 3.0: VARIANCES are requested from the following requirements:
- 3.1: Topsoil salvaging and stockpiling: (R613-004-109, pp 12)

As verified by photographs submitted and inspections of the sites by

personnel of the Department of Natural Resources, topsoils do not exist to any extent on the orebodies proposed for mining. However, ample evidence exists that the fine clays and sands created by the mining activities will support revegetation on the tops of waste dumps (and by inference, on the tops of heap leach pads once these are abandoned, and on mine and pit roadways after scarifying).

Attachment 1: Photographs of vegetation resulting from natural reseeding on tops of Drum mine waste dumps one full year after mining ceased.

Attachment 2: Photographs of vegetation resulting from natural reseeding of area disturbed as a result of mining of sand for heap leach bases and then releveled. Both of these photographs argue strongly against the necessity for either hauling in soil from other locations (thus causing further disturbances of natural vegetation), or for reseeding using seeds purchased from outside sources, except where an acceleration of natural processes is justified.

3.2: Reclamation of pits: (R613-004-109, pp 7)

We are guided by the language contained in the original permit granted to Western States on this matter, and by the requirement that pit high wall slopes should be less than 45 degrees.

3.21: "In cases where it is not safe or practical, the Division may approve highwalls to be left.... If a highwall is left, a security fence will be installed on top of the slope to insure protection to the public, domestic animals and wildlife."

Please note that existing pits at the Drum mine conform to these requirements, and that the pits planned for the Alto, etc., have all been laid out to conform also.

3.22: "Roads (in pits) will be scarified, fertilized, drill seeded and imprinted to allow vegetation."

In view of the experience gained since this permit was written and the evidence submitted in Attachments 1 & 2, it is probable that nothing beyond scarification will be required to start the natural reseeding action. We agree to follow other steps as necessary in the event that after one or two seasons natural reseeding and revegetation appears not to be functioning at the levels demonstrated by the attached photographs.

3.3: Waste dump slope angles and revegetation of these slopes: (R613-004-109, paragraph 6)

We request a variance to allow for the side slopes of waste dumps, as well as uncrushed leach pads, to be left at the natural angle of repose of the rock as dumped. This request is supported by the following:

We have measured on several of the dumps inherited from Western States slopes which average about 34 degrees for heights of up to 100 feet. Similar angles have been measured on dumps from the ancient mining operations, indicating that these slope angles are STABLE for many years (50 to 80 years in the case of earlier mining dumps).

- 3.31: No significant EROSION is noted on either the recent dumps or the ancient dumps. No delayed INSTABILITY is evidenced.
- 3.32: On dumps containing significant fines (e.g. generally near the tops) natural REVEGETATION has occurred throughout the area.
- 3.33: Since massive areas of barren rock and talus slopes naturally exist in these areas, no new element is introduced to the area by leaving the coarse-rock, lower levels of the waste dumps as they are placed. To do otherwise would require impractical and extremely costly steps in order to establish vegetation levels which DID NOT EXIST PRIOR TO THE MINING OPERATIONS. Further, in most cases these relevelling operations would require a substantial expansion of the disturbed areas, further destroying what little natural vegetation exists in the areas surrounding the waste dumps.
- 3.34: In this mountainous area 35 degree slopes are common; thus the requirement to regrade to lower angles is not justified by attempts to match the naturally occurring environment.
- 3.35: For those NEW LEACH HEAPS which will be built from CRUSHED rock, we expect angles of repose of 20 degrees or less. When bench widths of 15 ft, established at 20 ft. vertical intervals, are included, final average slopes approaching 3V:1H (18.4 degrees) will be reached. If experience shows steeper angles of repose, bench widths will be increased to provide a final 3:1 slope.

Natural revegetation of the slopes of the CRUSHED ROCK HEAPS is expected to be rapid. We accept the obligation to assist this revegetation by reseeding, etc. as necessary to prevent erosion and reestablish ground cover equivalent to that of the surrounding areas.

4.0: DRAINAGE AND EROSION CONTROL:

- 4.1: Energy dissipation measures such as coarse rock and rubble traps will be provided where needed at the discharge ends of the cutouts to control downslope erosion. Spacial placement of the cutouts will be determined by standard engineering/hydrological practices for construction of roads.
- 4.2: The contents of this paragraph have been discussed above under paragraph 3.3.
- 4.3: In addition to the discussion above, the Division requests consideration of relocating the dumps to areas where outslopes can be graded to slopes of at least 2H to 1V, or to consider dumping the waste material back into the pits.
- 4.31: For the further development of the existing Drum mine pit areas, the suggestion to stockpile and/or place the waste material back into a mined-out pit is practical and will be followed whereever possible. The existence of two adjacent pits, parts of which are mined out makes this possible. However, we do not consider the relocation of the dumps to other areas to be practical from either the environmental

or economic standpoint. This would necessitate the destruction of natural vegetation in surrounding areas, in several cases exceeding the areas of the side slopes of the dumps which are in question.

4.32: In the particular areas of the proposed Alto, Keystone, and Monarch pits, we do not consider this suggestion to be practical for the following reasons:

In addition to the obvious effect of nearly doubling the mining costs called for by the double handling of the waste material, the required intermediate stockpiling of the waste, prior to its being reclaimed for dumping back into the pit would necessitate the destruction of natural vegetation in an area larger than the proposed waste dump itself. The stockpile area, of necessity, would include some of the more level and better vegetated areas in the vicinity. It is our desire to minimize in every practical way the destruction of the sparse vegetation which exists, and the proposed waste dumps sites have been selected with this in mind.

- 4.4: We agree that where erosion of side walls of dumps may reasonably be anticipated (such as crushed-ore leach pads and those waste dumps which do not contain sufficient coarse rock to stabilize them) the indicated erosion control measures will be taken BEFORE major erosion occurs.
- 4.5: "Winterizing" refers to road erosion control measures needed on some roads in other areas where runoff during the winter and spring has been sufficient to cause severe damage to the roads, which were generally not used nor maintained during this period of time. The term has no particular significance in this application, and the Division is correct in its assumptions that all roads built for mining purposes will be ripped and seeded (naturally, or otherwise) upon final reclamation.

5.0: OPERATIONAL PRACTICES:

- 5.1: Permits have or will be applied for and will be obtained from the Division of Environmental Health with respect to dust control, etc.
- 5.2: Highwalls will be posted and fenced, or blocked with rock both during operation and after reclamation. With respect to the existing Drum Mine pits, the construction of berms and barriers on the perimeters of the pits is substantially complete.

6.0: OPERATIONAL PRACTICES -- SOILS:

- 6.1: In addition to the photographs, and ocular reports provided, personnel of the Division have inspected the Drum, Alto, Keystone, and Ibex sites and can sustantiate the fact that little or no topsoil exists on the proposed new mining sites.
- 6.2: An order 3 soil survey was included as a part of the Western States application and is on file with the Division. Included in this is an analysis of topsoil material which is typical for the region. Since the separate application for the adjacent Jumbo Mining Company sites is now to be considered to be an amendment to the original Drum Mine permit, it is hoped that it will not be necessary to duplicate this

soil survey.

- 6.3: It is believed that the mining and reclamation methods proposed will minimize the loss of slow growing bushes and trees by keeping the disturbance of ground to a minimum. At the same time, it will maximize (probably increase) the areas covered by the faster growing grasses, etc., using existing materials.
- 6/31: We have provided the Division, herewith, with photographic evidence that waste rock fines will sustain the growth of these grasses with natural reseeding, and we have indicated the absence of high amounts of sulfur or pyrite. We trust this "proof of the pudding" supercedes the need for the indirect evidence provided by a chemical analysis. In addition we have recently started new seeded test plots on the tops of several of the Drum mine waste dumps. These will provide further direct evidence of the ability of the mine waste rock to sustain vegetation without mulching or fertilization.
- 6.32: We seriously question the environmental wisdom, or necessity as discussed above, of destroying slow growing trees and bushes in one area in order to promote quick growing grasses in another area, as would be required in this area to "borrow" soil. While it may be possible to avoid the destruction of slow growing trees, etc., in some areas, in this region it is our opinion that this approach should be considered only as a last resort.
- 6.4: The areas surrounding our proposed new mining activities on the Alto, Keystone, Ibex, and Monarch mining sites were all disturbed pre-law. All of these sites lie within mining claims which were patented more than 50 years ago and have been mined more or less actively throughout this century.

7.0: ROADS AND PADS:

7.1: We agree to the stipulations of this paragraph.

11.0: REVEGETATION:

- 11.1: Subject to the comments above, we accept the guidance provided in this paragraph.
 - 11.2: Please refer to discussions above in paragraphs 3.1 & 3.2.
- 11.2: A test plot has been started on existing Drum mine dumps, as discussed in 6.31 above, without outside soils, mulching, or fertilizers. A one acre plot on top of No.7 waste dump was scarified and a seed mix was distributed by hand over the area in late November. In the spring and summer this will provide us further evidence of the ability of the mined materials to sustain vegetation, and will serve as a comparison to natural processes.

12.0: TOPSOIL & REVEGETATION:

12.1: Please refer to paragraphs 3.1, 3.2, and 6.31 above.

13.0: SURETY:

- 13.1: The surety for the Jumbo Alto/Ibex portion of the amended permit is acceptable at \$19,000.
- 13.2: Find enclosed separately the updated maps and reclamation area recalculations requested for the Drum Mine area. In our calculation of the areas to be reclaimed, we have been guided by the reclamation principles detailed above, whereby we have excluded from reclamation activites those areas covered by requested variances, e.g., side walls of pits and side slopes of coarse rock waste dumps. We have also delineated those areas which were largely undisturbed from within the overall area included within the perimeter fencing (not having been disturbed, these areas should not have been included in Western's original reclamation estimate).
- 13.3: Current maps, prepared from aerial photographs taken in July, 1987, colored to show various disturbed areas for the Drum Mine site are included as Attachment 3. Also included is Attachment 4 which summarizes our calculation of the amount of the Surety Bond, based on the revised areas delineated for reclamation, according to the guidelines discussed.

14.0: GENERAL QUESTIONS AND CONCERNS:

- 14.1: With respect to the permit transfer process, we understand that the application submitted by our company before the conclusion of the purchase of the adjacent Drum Mine from Western States for a separate permit (M/023/013) for additional mining sites will be treated as an amendment of the Drum Mine permit (M/027/007). We herewith formally request transfer of the existing permit, M/027/007 to Jumbo Mining Company. To this end we are attaching Form MR-10 filled out so far as we are able to do at this time. The reclamation surety information needs to be agreed upon and the Transferor must acknowledge the completed form. We trust that both of these items can be completed in the near future. However, we feel that it may be useful for you to have the partially completed application in your file prior to this time.
- 14.2: The impact of the new, crushed ore at the Drum Mine site, as well as ore from existing pads (which will be crushed and restacked) will be negligible as both will be stacked on existing heaps and will not increase the land area disturbed. Waste will be dumped into abandoned parts of the existing pits or stacked on top of existing waste heaps, neither of which will increase the disturbed land area. The ultimate reclamation contours will not be changed by these actions. Questions concerning topsoil resources, outslope stabilities, and erosion stabilization measures are addressed above in paragraphs 3, 4, 6, and 11.
- 14.3: Topsoil stockpile deficiency: We are not privy to the method, used to obtain the figure of 30,000 cubic yards of topsoil submitted to the Division in the original permit application by Western States in 1983-1984. From our knowledge of the area before mining activities commenced, we have serious doubts that this quantity ever existed. The last figure submitted by Western (10,000 cubic yards) probably does or has existed in several stockpiles on the property.

In view of the apparent success, without added topsoil, of natural reseeding on the tops of several waste dumps and on the borders of mine haulage roads, we believe that the amount of available topsoil is nowhere near as critical to the ultimate reclamation as might otherwise be the case. The test plot which we have initiated this fall should provide further evidence of the suitability of the mined waste to sustain vegetation. We believe that this apparent error in top soil estimate can be accommodated within the variance requested in paragraph 3 above.

15.0: COMBINED DRUM/JUMBO PERMIT:

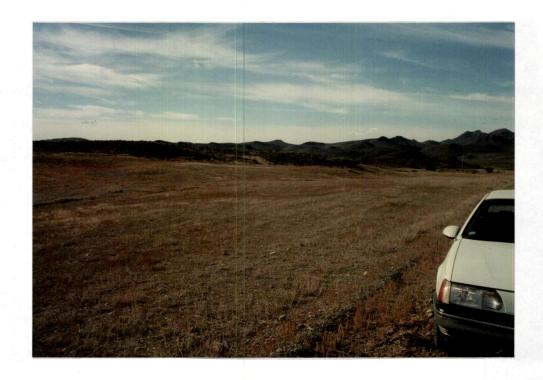
- 15.1: We agree with the position taken by the Division on this subject as to having a single permit to cover the integrated activities in this area.
- 15.2: An additional, separate request for amendment of this permit to cover the mining of the Mizpah oreboby will be submitted as soon as final planning has been completed.

Your cooperation in granting us additional time to provide this information is sincerely appreciated. I plan to visit Salt Lake City during the first week in February, and will contact you at that time to answer any questions which might arise on the information submitted herein.

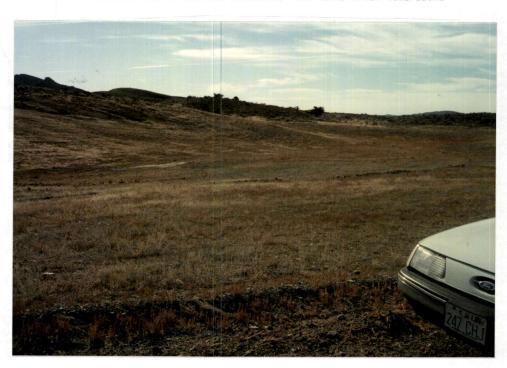
Sincerely,

E. B. King

cc: F. Rex Rowley, BLM, House Range Resource Area Don Osler, State Health Jerry Mansfield, State Lands



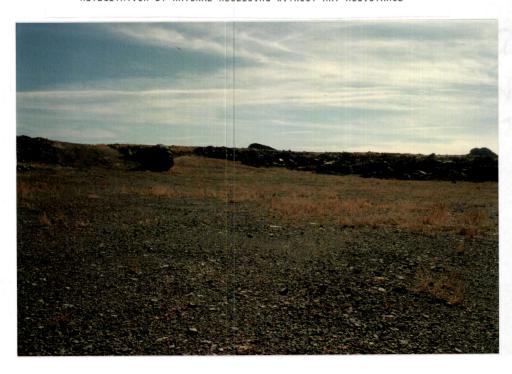
LOCATION: AREA OF OLD SAND PIT--DRUM MINE ENTRANCE
DATE: OCTOBER,1988
REVEGETATION BY NATURAL RESEEDING--TWO YEARS AFTER RELEVELING



ATTACHMENT 2



LOCATION: DRUM MINE WASTE DUMP NO. 2
DATE: OCTOBER, 1988
ONE YEAR AFTER HEAVY TRUCK TRAFFIC--NO SCARIFYING
REVEGETATION BY NATURAL RESEEDING WITHOUT ANY ASSISTANCE



JUMBO MINING CO.

6305 Fern Spring Cove Austin, Texas 78730 (512) 346-4537 Telex # 76-7177 received 29

January 25, 1989 File: OGMRECL

Mr. Lowell P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Mr. Braxton:

Re: Your letter dated December 6, 1988: Initial Review of M/023/013 DRUM MINE RECLAMATION ESTIMATE

Referring to the memo dated Dec. 5, 1989 from Scott Johnson to Wayne Hedberg, which encloses a reclamation "estimate" which "should be used as a guide until adequate information is furnished by Jumbo Mining", please find attached our suggested revisions to the "estimates". For ease of comparison we have used the same format and show the estimates (under the heading, "EST") alongside our revisions (under the heading "REV").

Attached to the comparison table are two pages of footnotes which explain the basis of each of our proposed revisions. In addition to these explanations, please also refer to our response to "TECHNICAL CONCERNS", wherein we have requested several variances which impact directly upon the reclamation estimates.

As you will see from the attached comparison and the accompanying footnotes, the biggest differences between the Division's estimate and our figures are derived from the fact that a substantial amount of reclamation work has been completed by Western States subsquent to their cessation of mining activities in 1987. Western had completed the berms along the highwalls around the pits, had graded many areas in preparation for reseeding, cleaned up trash throughout the property, removed a 3200 sq.ft. building, and demonstrated the efficient reduction in alkalinity and cyanide concentrations, in the process of decommissioning of the heap leach pads, by the process of continued sprinkling onto the heaps, without the addition of makeup reagents.

While the above listed items account for the biggest part of the difference in our figures, one other item is of significance throughout. In the two years since mining stopped, we have been able to observe the excellent results achieved in the area as a result of natural reseeding, on both ore and waste areas, without the addition of mulch, fertilizer, or new seed. In addition, this winter Jumbo has added several acres of test plots on tops of waste dumps, where the hard packed surfaces were scarified only, and seed hand-cast over the areas. These will be compared with the naturally reseeded areas, to further prove the ability of the soils derived from the ores to support vegetation similar to that

which was present before the area was disturbed.

We believe this last point to be very significant in view of the lack of topsoil in the area, and our reluctance to destroy other slow growing bushes and trees in the area in order to "rob" topsoil to needlessly cover waste dumps, etc. Environmentally, we believe this to be counter productive in this area.

The physical evidence at the site, as illustrated by the photographs attached, strongly points to the folly of this requirement.

Sincerely,

E. B. King

cc: F. Rex Rowley, BLM, House Range Resource Area
Don Osler, State Health
Jerry Mansfield, State Lands

EST= OGM letter dated 12/6/89; REV=Jumbo Updated Figures. See notes below for comments on revisions.

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4) Backfill portal	::												240	
5) Grade for uniformity	::											9030		
6) Revegetate	::			11.85									1931.5	
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8) Remove trash from tops of heaps	::	41	:	42.6	*	acres		100	:	0	ž	4100	: 0)
9) Grade pads to minimize erosion	::	41	:	42.6	*	acres		430	:	0	*	17630	: 0)
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11) Regrade topsoil for uniformity	::					acres								
12) Revegetate	::	41	:	42.6	*	acres	*	381	:	163			: 6943.8	
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TOTAL RECLAMATION COST 1993 DOLLARS @	2	24 ANA	1111	AL INCI	AT	ION						96828	106229	1

File: Reclnote

Notes to accompany REVISED DRUM MINE RECLAMATION ESTIMATE
--JUMBO MINING COMPANY

MINE PITS & DECLINE

- 1) Remove trash: Western States had cleaned trash from pit areas before the property was sold to Jumbo. The reduced five acre estimate is believed to be ample to cover the smaller areas which will be mined by Jumbo.
- 2) Berms on highwalls: This work also was completed by Western during their operation and after they ceased mining activities. If any new areas are opened up by Jumbo, highwalls will be constructed DURING the operating period as required by MSHA, BLM, and other regulatory authorities.
- 3) Seal on portals: No change from estimate.
- 4) Backfill portal: No change.
- 5) Grade for uniformity: All areas within the Pit which will be revegetated are graded, being ramps, roadways, and benches. The cost of scarifying these is included in the Revegetation cost given below.
- 6) Revegetate: Experience has indicated that the costs for native hay mulch and its application are not needed for this area and soil. Please refer to photographs of the results of natural reseeding, etc. The deletion of costs for hay mulching reduces the cost of revegetation from \$381 to \$163/acre. The actual measured area of roads, benches, and ramps which are safely accessible for reseeding is 11.85 acres, as shown on the attached maps.

HEAP LEACH PADS

- 7) Decommission heap leach pads: For this particular ore we have determined that cyanide levels can be reduced rapidly and efficiently to acceptable levels by ceasing the additions of lime and cyanide and continuing the sprinkling processes. The neutralization of the remaining alkalinity by the carbon dioxide absorbed from the air reduces the pH of the solutions within a short period of time to approximately 8.0-8.5, and cyanide concentrations are reduced by oxidation/evaporation to below 0.2 mg/l. Most of the solution remaining on shut down will be evaporated in the sprinkling process; that which remains in the bottom of the sumps will be cleaned out along with residual mud and carbon for gold recovery.
- 8) Remove trash from tops of heaps: No trash has accumulated on heap tops, or has been cleaned up by Western. It is not our practice to allow for anything on top of heaps except for piping and sprinkler systems, and these will be salvaged for reuse on other heap leach systems, prior to commencement of reclamation activities.

- 9) Grade pads to minimize erosion: None of the existing pads show any sign of erosion after approximately four years of exposure to the equivalent of a very heavy rainfall (the sprinkling system is the equivalent of about 3" rainfall per day, day in and day out for months at a time in addition to any cloudbursts which might have occurred in the area). The pads are nearly level on top and are designed to have a high drainage/percolation capacity, so that no "runoff" may be expected. This applies also to the side slopes. No erosion or sloughing is evident on the side slopes of any of the ten heaps which have been built.
- 10) Haul topsoil: No change. The topsoil that has been stockpiled will be redistributed to areas where it might be needed to assist revegetation.
- 11) Regrade topsoil: No change.

WASTE DUMPS

- 12) Revegetate: The acreage has been increased slightly to meet the most current measured areas, and the cost/acre has been reduced to eliminate the mulching costs as discussed above.
- 13) Remove waste trash: The acreage has been reduced to current measurements.
- 14) Grade for uniformity: Acreage has been reduced to that area which may need grading. The rest of the area has been graded or can not be graded practically as discussed elsewhere.
- 15) Revegetate: Area has been reduced to current measurements, and the cost of mulching has been eliminated.

FACILITIES

- 16) Demolish and Dispose of buildings, etc.: A 3200 sq.ft. building was removed by Western States, reducing the remaining buildings to 5,000 sq.ft.
- 17) Remove fenceline: No change. Since the salvage value of the fence and posts will exceed the cost to remove it, however, we question the ground rules which require the posting of \$18,787 bond to pay for its removal.
- 18) Plug drill holes: No change.
- 19) Remove trash: As this will cover the entire area used, which is not otherwise provided for, No change.
- 20) Rip roads: Minor reduction to conform to updated area measurements.
- 21) Grade for uniformity: Reduction to account for updated measurements of areas which may require grading.
- 22) Revegetate: Updated area measurement and elimination of mulching cost account for the reduction.

Deer of Seaso Art School No 2 PT Drum Mine North Ridge Pit 15.1 acres T 15 S R 10 W BENCHES, RAMES 44 Hares of Waste Dump 3.6 acres Lo-Grade Heap No. 324 6.5 acres (3,13) Total Road Disturbance 25.4 acres (23.1) Lo-Grade Heap No. 23,3 4.8 acres BENCHES, RAMES 4 ROADS Drum Mine Southwest Extension Pit 17.6 acres Hi-Grade Heap No. 4 3.7 acres Shop REMOVER Waste Dump 5.2 acres Hi-Grade Heap No. 5 6.8 acres Waste Dump 4.7 acres Office Topsoil 1.1 acres RECLAIMED HG. No.6 Water Tank Solution Ponds 1.4 acres Topsoil 1.2 acres 1111111 2 80 8 1111111 2 80 8 Hi-Grade Heap No. 1 6.0 acres (5.53) RECLAIMED TOPSOIL Hi-Grade Heap No. 3 5.8 acres 3-86 Hi-Grade Heap No. 2 5.9 acres to boil removed Waste Dump 10.6 acres Topsoil 0.8 acres RECLAIMED Y, Main Gate (2.05) Grade Heap #1 1.5

NOTES

Revisions in red, January, 1989 based on aerial contour map (1" to 100', flown 7/22/87) & ground measurements taken 1/89.

Revised areas in parentheses in acres. Shop building (40' \times 80') removed 11/88.

No.'s 4 & 5 Hi-Grade heaps are actually joined together as one heap as shown.

No.7 Hi-Grade heap was built on top of waste dumps near southern boundary.

Topsoil stockpiles do not exist and areas which they occupied have been reclaimed.

Drillholes

Jumbo Mining Company M/023/013 Drum Mine Site Present Disturbance (1988)

Scale 1" = 500'

Map Compiled December 5, 1988



State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining

JUMBO MINING CO.

6305 Fern Spring Cove Austin, Texas 78730 (512) 346-4537 Telex # 76-7177



February 27, 1989 File: OGM227

Mr. D. Wayne Hedberg Permit Supervisor Department of Natural Resources Division of Oil, Gas and Mining 355 West North Temple 3 Triad Center, Suite 350 Salt Lake City, Utah 84180-1203

Dear Mr. Hedberg:

Re: Review of M/023/013 -- Drum Mine



DIVISION OF OIL, GAS & MINING

Responding to your request for the contour map of the Drum Mine area, based on aerial photography of July, 1987, please find enclosed a copy, reduced from 100 ft to 200 ft/inch scale for convenience.

On this map I have colored the various areas which we have measured and which are subject to reclamation as referenced in my letter to the Department dated January 19, 1989.

Please call me if I can be of further assistance in expediting your review of this project.

Sincerely yours,

E. B. King

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
(801) 538-5340

APPLICATION FOR PERMIT TRANSFER

1. (a)	Name, telephone number and	mailing address of applicant:
	JUMBO MINING CO	M PANY
	AUSTIN, TX 78730	512-346-4537
(p).		
(c)	Permit number to be transfe	rred: M/027/007
(d)	The total number of acres i estimate of the total numbe operation through date of t	r of acres affected by the
TOTAL PE	RMIT ACRES DATE ISSUED	ESTIMATE OF AFFECTED ACRES
Original		88
Approved 13.2 55.7 Total Ac	1 9/30/85	NONE ADDITIONAL - CHANGE IN F
143.5		143.7
l p	c and orrating nogo man	of above acreages as Appendix Map(s) with permit and amendment ntified. (See Western) States Map on the
2. (a)	Name, telephone number and	mailing address of Transferee:
	SEE I(a) ABOVE	
(b)	the names and addresses of	hip, association or corporation, all owners, partners, managers ponsible for operations in this

2.(b) (continued)

Name:	E.B. KING	Address: 6	305 FERN SPRING COVE
Title:	PRESIDENT	Phone No.:	7x 78730 512-346-4537
Name:	JANET KING		SAME
Title:	SECRETARY-TREASURER	Phone No.:	
Title:	CHIEF GEOLOGIST PERENT L. MOORE ESIDENT MANAGER	Phone No.: Address: DELTA, UTA	P.O. Box 999 VTAH 84624 301-864-4697 P.O. Box 999 H. 84624
3. Name, te	elehpone number and address statives of the Transferee	of the aut	Noi- 864.4697 horized notices under the
provisio	ons of the Utah Mined Land I der may be sent:	Réclamation	Act, adopted
E.B.V	(ING - ADDRESS ABOVE		
4. Reclamat	cion surety information:		
Amount: Form: Company Date Iss Renewabl Etc.:	'세계' '하게 맞게 되어 하게 되었다.' 그 이 그리고 있다. 그리고 있는데 그리고 있는데 그리고 있다. 그리고 있는데 그리고 있는데 그리고 있다.		
5. The prov	visions of the transferred	permit are	severable, and if

5. The provisions of the transferred permit are severable, and if any provision of the permit, or the application of any provision of the permit, to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

and the second the second second

SWORN STATEMENT OF TRANSFEROR

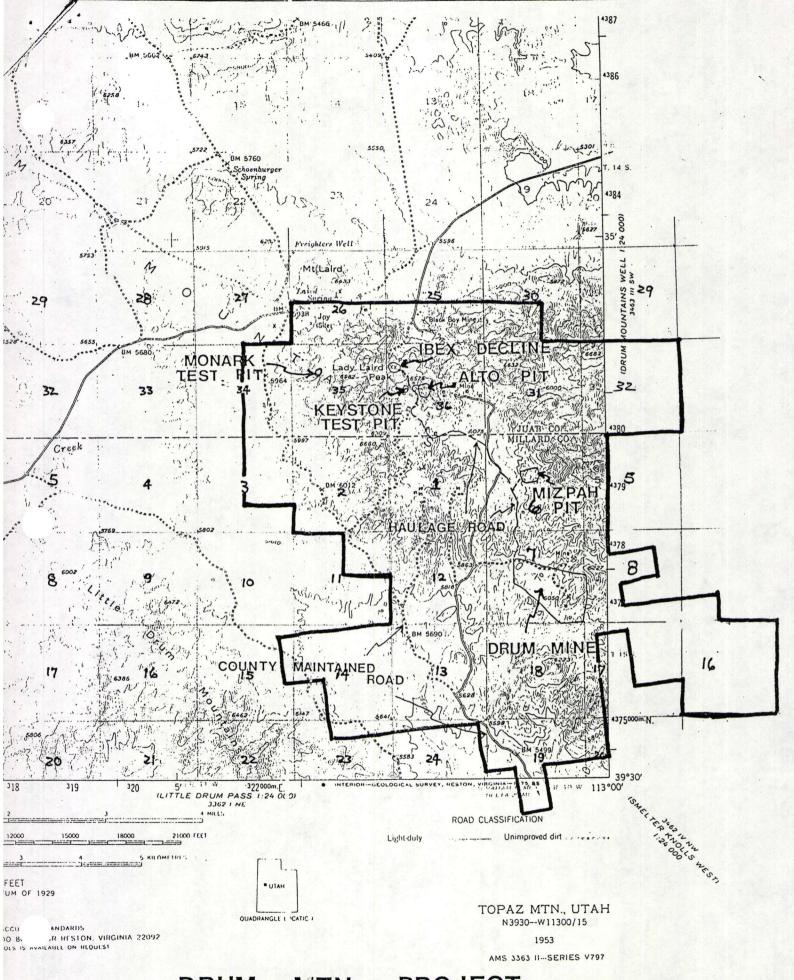
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County of		SS.		•
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FINAL SWORN STATEMENT OF TRANSFEREE

State of Utah
County of) ss.
I being duly sworn on my oath Name (typed or printed)
that I am the Transferee (Executive Vice-President if the Transferee is a corporation) for the foregoing mining permit transfer; that I have read the said application and fully know the contents thereof; that all statements contained in the permit transfer application are true and correct to my best knowledge and belief; by execution of this statement I certify that Transferee has the right and power by legal estate owned to mine from the land for which this permit transfer is desired; that Transferee has not forfeited, or is not involved in forfeiture proceedings for, a bond posted for reclamation purposes; and by completion and submission of this application, hereby give consent to allow the Director, the Administrator and/or authorized representatives, at reasonable times and upon presentation of appropriate credentials, to enter upon and have access to any and all lands covered by this permit and amendments thereto and to inspect and copy any records or documents, obtain or monitor any samples or sampling, for any activities associated with the operation and permit.
Dated this day of, 19
NAME:
TITLE:
The foregoing instrument was acknowledged before me by:, this day of, 19 Witness my hand and official seal.
(Notary Public or other authorized officer) My Commission Expires:

DIVISION OF OIL, GAS AND MINING)
This is to certify that I have examined the foregoing application and do hereby grant the same subject to the following limitations and conditions.
 This permit transfer grants only the right to affect the lands described in Appendix "C" of the permit.
 The Transferee has acquired a good and sufficient reclamation bond fully executed and signed. The bond shall be effective on the date of transfer.
3. The Transferee, or such other person as required by UCA 1953, Title 40-8, has acquired a license to mine for lands described in Appendix "C" of the permit.
COMMENTS:
APPROVED:
Director
Division of Oil, Gas and Mining
Effective Date: Permit No.:
TOTIME HOSS
APPROVED AS TO FORM:

Assistant Attorney General



DRUM MTN. PROJECT

	lern States M			
MULT	IPUL DOCUMENT	TRACKING SI	HEETNEW	EXPANDABLE APPROVED NOI
Description			YEA	R-Record Numbe
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